



Notes From Underground

An update on source water protection and underground pollution control from the U.S. Environmental Protection Agency (EPA) Pacific Southwest/Region 9, serving Arizona, California, Hawaii, Nevada, Native American Tribes in the Region, and the Pacific Islands.

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Questions about
dairy impacts to
water quality?



[www.epa.gov/
region09/
animalwaste](http://www.epa.gov/region09/animalwaste)

EPA Proposes to Continue Existing Approach on Managing Class V Injection Wells:

To review this proposal and
to get more information,
please visit:

[www.epa.gov/safewater/
uic/classv.html](http://www.epa.gov/safewater/uic/classv.html)

On-site Sewage Treatment: Training Opportunities

Septic tanks and other on-site sewage treatment systems provide sanitation to millions of Americans. In sensitive environments, such treatment systems can pollute ground water. To enhance local pollution control, the EPA funds training for sanitarians, service providers and the general public on operation and maintenance of conventional septic systems, as well as newer treatment technologies. This training is available through a number of organizations in the Pacific Southwest, which offer workshops and academic courses. Here is a partial list of what is offered:

Distance Learning:

A self-paced course is available from Ken Kerri's Office at California State University, Sacramento; "**Small Wastewater System Operation and Maintenance**". For more information, see www.owp.csus.edu/, or contact CSU by mail: Office of Water Programs, CSU-Sacramento, 6000 J Street, Sacramento, CA 95819.

Classes/workshops with field demonstrations:

At Northern Arizona University, contact NAU College of Engineering and Technology, P.O. Box 15600, Flagstaff, AZ 86011-5600, or e-mail Steven.Hoban@nau.edu, or call (520) 523-8296. See also www.cse.nau.edu/wdp/.

California State University, Chico offers one to three-day courses with field components, at multiple locations around the state. Contact Tibor Banathy, CSU-Chico Onsite Wastewater Training and Research Center, 311 Nicholas Schouten Lane, Chico, CA 95928, www.calwastewater.org, or e-mail tbanathy@csuchico.edu.

The Hawaii Department of Health supports a Wastewater Operator Training Center that offers courses relevant to large and small systems. Contact the Statewide Wastewater Operator Training Center, 1350 Sand Island Parkway, Bldg. 3A, Honolulu, Hawaii 96819, or call (808) 832-5478. See also [www.hawaii.gov/health/
eh/emwwtc.html#anchor863763](http://www.hawaii.gov/health/eh/emwwtc.html#anchor863763).

Conferences:

Annual conference of the Native American Water Association (for water and wastewater professionals), September 2001. See <http://nawainc.org/> or write

(continued on page 2)



Soils Class, Chico, May 1999

NAWA, 1662 Highway 395, Suite 212, Minden, NV 89423; phone (775) 782-6636, e-mail info@nawainc.org.

For Homeowners:

The University of Arizona Cooperative Extension has produced a homeowner's guide to on-site systems, published at <http://ag.arizona.edu/pubs/water/az1159.pdf>.

The University of Reno Cooperative Extension has several documents available on septic system and private well management at www.extension.unr.edu/pubsmenu.html#waterquality.

The Small Flows Clearinghouse offers free assistance and information on its Web site and toll-free hotline: www.nsfv.wvu.edu; or call (800) 624-8301.

EPA Information:

EPA's Office of Wastewater Management has issued guidelines for management of decentralized wastewater treatment systems to help communities fill the gap between conventional septic systems and sewage treatment plants. For more information see www.epa.gov/owm/decent.

EPA's Office of Research and Development is working to update its 1980 **Design Manual for On-site Sewage Treatment Systems**. To be notified of its availability, or to receive information about on-site treatment training opportunities in Region 9, send an e-mail to janes.elizabeth@epa.gov.



Tribal Corner



Source Water Assessments:

EPA's Pacific Southwest Ground Water Office continues to encourage tribes to develop source water protection programs. The Ground Water Office is currently soliciting tribes in the Pacific Southwest to submit proposals under §1442 (c)(3) of the Safe Drinking Water Act (42 USC §300j-1(c)(3)). Under this grant, tribes can conduct assessments of their drinking water sources and develop protection measures. To qualify for funding, workplans must be submitted to EPA by November 30, 2001.

In addition to grant opportunities, technical staff from EPA are available to work with tribes on source water protection development and implementation activities.

Underground Injection Control (UIC):

EPA's Ground Water Office mailed letters to all tribal chairpersons in the Pacific Southwest on April 11, 2001, seeking input on the region's proposal to continue a ban on motor vehicle waste disposal (MVWD) wells located on tribal and state lands. MVWD wells are shallow injection wells (septic tanks, cesspools, or dry wells) at auto shops, maintenance yards, and other facilities that receive automotive wastes such as waste oil, used antifreeze, brake fluid, cleaning solvents, and leaked fuel. In December 1999, EPA issued national regulations that prohibit the construction of new MVWD wells. For existing MVWD wells the rule provides an option to phase them out over an 8-year period. The April 11 letter described EPA's Pacific Southwest proposal to continue the region-wide ban on all MVWDs due to their potential threat to the environment and public health. As a follow-up to that letter, our office is currently calling each tribal chairperson to seek their input into the process.

For more information: Call EPA Tribal contact Lisa Penaska, Ground Water Office, at 415-744-1966 or e-mail penaska.lisa@epa.gov.

Animal Feeding Operations in Region 9

This morning, did you have cream in your coffee? Have a ham or chicken salad sandwich at lunch? There is a good chance that your dairy or meat product originated from an animal feeding operation, or "AFO".

Definition:

Cows, pigs, ducks, chickens, turkeys, horses -- any grouping of animals confined together, for at least 45 days, in an area denuded of vegetation, is usually considered an AFO. Feed is usually brought to the animals, unlike grazing animals. An AFO which houses more than 1000 animals units is considered a CAFO, or Concentrated Animal Feeding Operation. A dairy, for instance, with 700 milk cows (equivalent to 1000 animal units) could be considered a CAFO. CAFOs are usually regulated under the National Pollutant Discharge Elimination System (NPDES).

EPA is revising the regulations that define AFOs and how they should be managed. The public comment period on the draft regulations closed on July 30, 2001. The new regulations are expected to be issued in January 2003 and will be implemented by the delegated Pacific Southwest Region states. Arizona is currently a non-delegated state. EPA's Pacific Southwest Region recently published a general NPDES permit for CAFOs in Arizona, which will require the large facilities to develop Nutrient Management Plans to govern land application of the manure waste. This permit takes effect on August 27, 2001. In Arizona, approximately 100 dairies are expected to be covered under this permit.

Number of facilities in R9:

While an exact number is not known, dairies make up the bulk of AFOs in Arizona, California, Hawaii, and Nevada.

	<u>Estimated # of dairies</u>
Arizona	197
California	2700
Hawaii	50
Nevada	150

* Source USDA 1999 (Approximate data)



Pollution Potential:

A single dairy cow produces about 120 pounds of wet manure per day (Nitrate Working Group, CDFA 1989:27) which is equivalent to the waste produced by 20-40 people. That means California's 1.4 million dairy cows produce as much waste as 28 - 56 million people. Like many residential, industrial and agricultural activities, animal feedlots have the potential to pollute ground and surface waters if not managed properly. Water, mixed with manure, may contain high levels of nitrates, phosphorus, pathogens, sediments, and salt. Through several pathways, manure water could contaminate surface or ground waters. Similarly, the same risk applies at the field sites if the manure water that is applied to fertilize crops is not applied at an agronomic rate -- that is, at a rate and time where the crop can utilize most of the nutrients without letting them escape to the ground water below or flow into surface waters.

Drinking Water Protection:

Animal feedlots deserve special attention from water managers if they are located within the Source Water Assessment and Protection (SWAP) areas. Dairy locations may be determined through the state or local agency that regulates the milk program. However, this information may be difficult to determine since records may be obsolete or considered business confidential and not available to the public. Inspection records from state or county regulatory agencies may indicate the potential for an AFO to pollute surface or ground water and whether problems have been identified in the past. If records indicate that the facility has not been inspected, it may be prudent to work with the regulating agency to arrange an inspection and ensure manure is properly managed, to reduce or eliminate contamination reaching surface and ground waters that serve as drinking water sources.

For more information:

Contact Judy Bloom, EPA Pacific Southwest Region Ground Water Office at 415-744-1829 or e-mail bloom.judy@epa.gov.

Source Water Assessment Program Update

All four Pacific Southwest states -- Arizona, California, Hawaii, and Nevada are on track to complete their source water assessments by May 2003. Information about completed assessments will be available in each state's annual Drinking Water Consumer Confidence Report which is released every July. To learn more about your community's source water assessment contact:

AZ: Department of Environmental Quality, within AZ
(800) 234-5677, Ext. 4653; outside AZ
(602) 207-2300

CA: Department of Health Protection Services,
(707) 576-2295 or www.dhs.ca.gov/ps/ddwem/dwsap/overview.htm

HI: Department of Health, (808) 586-4258

NV: Bureau of Health Protection Services,
(775) 687-6353

For more information about Drinking Water Consumer Confidence Reports, visit:
www.epa.gov/safewater/ccr1.html

Some Upcoming Events

October 23 - 26: Association of State Drinking Water Administrators Annual Conference in Baltimore, Maryland. For more information, visit www.asdwa.org.

October 30 - 31: 23rd University of California Biennial Groundwater Conference & 10th Annual Meeting, Groundwater Resources Association of California - Managing California's Groundwater: The Challenges of Quality and Quantity in Sacramento, CA. For more information, visit www.grac.org.

November 11 - 14: American Water Works Association Water Quality Technology Conference in Nashville, Tennessee. For more information, visit www.awwa.org.

November 14 - 16: Groundwater Foundation 2001 Fall Conference 'Today's Technology Protecting Tomorrow's Groundwater' in Pittsburgh, Pennsylvania. For more information, visit www.groundwaterfoundation.org.

Notes From Underground

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San Francisco, CA 94105

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